

IN THE CLAIMS

Please amend the claims as follows:

1-37. (Canceled)

38. (Original) A system comprising:

a manifold including one or more threaded sockets;

one or more cartridge housings removably attachable to the threaded sockets; and

a base leg including one or more cartridge holding portions to support a distal end of each of the one or more cartridges, wherein at least one of the cartridge holding portions as adapted to engage an outer portion of each of the one or more cartridge housings such that the at least one cartridge holding portion can be used to either tighten or loosen the cartridge housing from one of the threaded sockets.

39. (Original) The system of claim 38, wherein each of the one or more cartridge housing includes ridges on an outer surface of the cartridge housing to engage the at least one cartridge holding portion.

40. (Original) The system of claim 38, wherein the base leg includes a generally triangular shape.

41-43. (Canceled)

44. (New) A tankless reverse osmosis (RO) system comprising a reverse osmosis membrane element that receives feed water, the membrane element having a permeate outlet and a concentrate outlet, wherein the membrane element is capable of producing a permeate flow rate of at least 750 GPD under home reverse osmosis conditions, wherein home reverse osmosis conditions includes supplying the feed water at 65psi average water pressure at a surface of the membrane element with the feed water being at 77 degrees Fahrenheit and consisting of 500 ppm

NaCl in water having a PH in the range of 7-8 such that the system operates at 25% recovery, wherein the system occupies a volume that is less than 15,000 cubic inches.

45. (New) The reverse osmosis (RO) system of claim 44 wherein the system occupies a volume that is less than 3000 cubic inches.

46. (New) The reverse osmosis (RO) system of claim 44 further comprising a pre-filter coupled to the inlet such that the pre-filter receives the feed water from the inlet and supplies filtered water to the membrane element.

48. (New) The reverse osmosis (RO) system of claim 44 wherein the membrane element includes two or more membrane elements having a parallel flow configuration.

49. (New) The reverse osmosis (RO) system of claim 44 wherein the membrane element includes two or more membrane elements having a series flow configuration.

50. (New) The reverse osmosis (RO) system of claim 44 wherein the housing has a volume of less than or equal to approximately 4500 cubic inches.

51. (New) The reverse osmosis (RO) system of claim 44 wherein the membrane element has an average A value that is greater than 25.

52. (New) The reverse osmosis (RO) system of claim 44 wherein the membrane element has an average A value that is greater than 35.

53. (New) The reverse osmosis (RO) system of claim 44 wherein the membrane element has an average A value that is greater than 45.

54. (New) The reverse osmosis (RO) system of claim 44 wherein the membrane element has an active membrane area that has less than 50 square feet of active membrane area.

55. (New) The reverse osmosis (RO) system of claim 44 wherein the membrane element is capable of producing a permeate flow rate of at least 1000 GPD under home reverse osmosis conditions.
56. (New) The reverse osmosis (RO) system of claim 55 wherein the membrane element has an active membrane area that has less than 50 square feet of active membrane area.
57. (New) A reverse osmosis (RO) system comprising:
a housing that receives feed water; and
a membrane element within the housing to receive the feed water, the membrane element having a permeate outlet and a concentrate outlet such that water from the permeate outlet is supplied to a faucet;
a sensor that monitors the condition of the water that exits from the membrane;
a first set of indicators located near the faucet to indicate a condition of the system based on data obtained from the sensor; and
a second set of indicators located near the housing to show a condition of the membrane element based on data obtained from the sensor.
58. (New) The reverse osmosis (RO) system of claim 57 wherein first set of indicators indicates whether the system is in a good condition or a bad condition.
59. (New) The reverse osmosis (RO) system of claim 58 further comprising:
a pre-filter within the housing; and
at least one additional membrane within the housing, wherein the second set of indicators identifies which of the pre-filter and membrane elements needs to be changed when there is a bad condition with the system.
60. (New) The reverse osmosis (RO) system of claim 57 wherein the first set of indicators are LEDs and the second set of indicators are LEDs.

61. (New) The reverse osmosis (RO) system of claim 57 wherein the sensor monitors the amount of time that water is flowing from the membrane element.
62. (New) The reverse osmosis (RO) system of claim 57 wherein the sensor compares total dissolved solids in the feed water with total dissolved solids in water exiting the permeate line.
63. (New) A reverse osmosis (RO) system comprising:
a housing;
a pre-filter within the housing such that feed water flows into the housing and enters the pre-filter; and
a membrane element within the housing such that the filtered water flows from the pre-filter and enters the membrane element and permeate exits the membrane element through the housing.
64. (New) The reverse osmosis (RO) system of claim 63 wherein the housing includes a first end cap at one end and a second end cap at an opposing end such that feed water flows from the first end cap into the pre-filter and filtered water flows from the pre-filter into the first end cap, wherein the pre-filtered water flows from the first end cap to the membrane element and permeate exits the membrane element through the first end cap in order exit the housing.
65. (New) The reverse osmosis (RO) system of claim 63 wherein the membrane elements includes a first membrane and a second membrane, the first membrane and the second membrane being configured within the housing such that pre-filtered water flows from the first end cap through the first and second membranes in parallel.
66. (New) The reverse osmosis (RO) system of claim 63 wherein the membrane elements includes a first membrane and a second membrane, the first membrane and the second membrane being configured within the housing such that pre-filtered water flows from the first end cap through the first membrane and then the second membrane.

67. (New) The reverse osmosis (RO) system of claim 63 wherein concentrate flows from the membrane element into the second end cap and permeate flows from the membrane element into the second end cap.

68. (New) The reverse osmosis (RO) system of claim 67 further comprising a shut off valve within the second end cap such that permeate and concentrate from the membrane element flow through the shut off valve.

69. (New) The reverse osmosis (RO) system of claim 68 wherein the shut off valve allows concentrate to flow from the membrane element only when permeate is flowing from the membrane element.

70. (New) The reverse osmosis (RO) system of claim 68 wherein permeates flows from the second end cap through the housing to the first end cap, and wherein concentrate flows from the second end cap through the housing to the first end cap.

71. (New) The reverse osmosis (RO) system of claim 68 wherein permeates exits the housing from the first end cap, and wherein concentrate exits the housing from the first end cap.

72. (New) A reverse osmosis (RO) system comprising:
a manifold;
a leg;
a housing that engages the manifold on one end and is supported by the leg on an opposing end, wherein the leg is adapted to engage the housing such that the leg can be used to insert the housing relative to the manifold; and
a membrane element within the housing.

73. (New) The reverse osmosis (RO) system of claim 72, wherein the housing includes ridges on an outer surface of the housing such that the leg engages the ridges to rotate the housing relative to the manifold.

74. (New) The reverse osmosis (RO) system of claim 72 wherein the housing threadingly engages the manifold when the leg rotates the housing in one direction and removes the housing from the manifold when the leg rotates the housing in an opposing direction.

75. (New) The reverse osmosis (RO) system of claim 72 wherein the housing includes exterior threads that engage interior threads on the manifold.

76. (New) The reverse osmosis (RO) system of claim 72 further comprising:
a plurality of housings such that each housing engages the manifold on one end and is supported by the leg on an opposing end, wherein the leg is adapted to engage each housing such that the leg can be used to individually insert each housing relative to the manifold;
an additional membrane element within one of the housings; and
a pre-filter within one of the housings.

77. (New) The reverse osmosis (RO) system of claim 72 wherein each one of the housings is the same size.

78. (New) A reverse osmosis (RO) system comprising:
a housing that includes an inlet port, a permeate port and a concentrate port;
a membrane element within the housing;
a first connector that includes a first end which is adapted to receive hose and a second end that is connected to the inlet port such that the second of the first connector fits the inlet port and does not fit the permeate port and the concentrate port;
a second connector that includes a first end which is adapted to receive hose and a second end that is connected to the permeate port such that the second end of the second connector fits the permeate port and does not fit the inlet port and the concentrate port; and
a third connector that includes a first end which is adapted to receive hose and a second end that is connected to the concentrate port such that the second end of the third connector fits the concentrate port and does not fit the inlet port and the permeate port.

79. (New) The reverse osmosis (RO) system of claim 78, wherein the first connector is inserted into inlet port, the second connector is inserted into the permeate port and the third connector is inserted into the concentrate port.

80. (New) The reverse osmosis (RO) system of claim 78, wherein the second ends of the first, second and third connectors are adapted to receive tubes that are inserted into the respective second ends of the first, second and third connectors.

81. (New) A reverse osmosis (RO) system comprising:
a housing that includes an inlet port, a permeate port and a concentrate port;
a membrane element within the housing;
a first connector that includes a first end which is adapted to receive hose and a second end that is connected to the inlet port;
a second connector that includes a first end which is adapted to receive hose and a second end that is connected to the permeate port;
a third connector that includes a first end which is adapted to receive hose and a second end that is connected to the concentrate port; and
a key that is inserted between each of the first, second and third connectors, the key being configured such that the key can not be inserted between each of the first, second and third connectors unless each of the first, second and third connectors is properly connected to the respective inlet, permeate and concentrate ports.

82. (New) The reverse osmosis (RO) system of claim 81, wherein the first connector is inserted into inlet port, the second connector is inserted into the permeate port and the third connector is inserted into the concentrate port.

83. (New) The reverse osmosis (RO) system of claim 81, wherein the second ends of the first, second and third connectors are adapted to receive tubes that are inserted into the respective second ends of the first, second and third connectors.

84. (New) The reverse osmosis (RO) system of claim 81, wherein the key engages the housing and is inserted between each of the first, second and third connectors, the key being configured such that the key can not be removed from between each of the first, second and third connectors when there is pressure at the inlet port.

85. (New) A reverse osmosis (RO) system comprising:

- a housing that includes an inlet port, a permeate port and a concentrate port;

- a membrane element within the housing;

- a first connector that includes a first end which is adapted to receive hose and a second end that is connected to the inlet port;

- a second connector that includes a first end which is adapted to receive hose and a second end that is connected to the permeate port;

- a third connector that includes a first end which is adapted to receive hose and a second end that is connected to the concentrate port; and

- a key that engages the housing and is inserted between each of the first, second and third connectors, the key being configured such that the key can not be removed from between each of the first, second and third connectors when there is pressure at the inlet port.

86. (New) The reverse osmosis (RO) system of claim 85, wherein the key can not be inserted between each of the first, second and third connectors unless each of the first, second and third connectors is properly connected to the respective inlet, permeate and concentrate ports.